



**UNITED STATES DEPARTMENT OF COMMERCE**  
**Patent and Trademark Office**

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APPLICATION NO. 10/22/97 478	FILING DATE 10/22/97	FIRST NAMED INVENTOR ALLEN	ATTORNEY DOCKET NO. JAO-40247
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PM51/1222

EXAMINER TUDOR, H
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ART UNIT 3641	PAPER NUMBER 5
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DATE MAILED: 12/22/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

08/943,478

Applicant(s)

Allen

Examiner

Tudor, H.J.

Group Art Unit

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

**Period for Response**

A ~~SHORTENED~~ STATUTORY PERIOD FOR RESPONSE IS SET TO EXPIRE Six MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a response be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for response specified above is less than thirty (30) days, a response within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for response is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to respond within the set or extended period for response will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

- ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- ☐ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 1 1; 453 O.G. 213.

**Disposition of Claims**

- ☒ Claim(s) 1-6 is/are pending in the application.
- Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- ☒ Claim(s) 1-6 is/are rejected.
- ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- ☐ Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

**Application Papers**

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

This document contains information under  
SECURITY ORDER, as defined in E.O. 12812-103  
Unauthorized Disclosure Subject to Civil  
and Criminal Sanctions.

**Priority under 35 U.S.C. § 119 (a)-(d)**

- ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- ☒ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been:
  - ☐ received.
  - ☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - ☐ received in this national stage application from the International Bureau (PCT Rule 1 7.2(a)).

\*Certified copies not received: \_\_\_\_\_

**Attachment(s)**

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s) 3
- ☒ Notice of References Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other \_\_\_\_\_

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1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the low friction coating on the internal surface of said bore of said duct and the low friction coating on the spring must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
2. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect can be deferred until the application is allowed by the examiner.
3. The disclosure is objected to because of the following informalities: In line 13 of page 2, --injector-- should be substituted for "inspector". Appropriate correction is required.
4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
5. Claims 5 and 6 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not clearly set forth specific low friction materials which can be coated on the spring and the internal surface of the bore. Applicant is cautioned against the entry of new matter.
6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no positive antecedent basis for "said fuel duct" in line 5 of claim 1, "the internal surface of the bore of said duct", in line 6 of claim 1 and in lines 1 and 2 of claim 6, "the bore of said fuel duct means" in line 2 of claim 3, "said spring" in line 2 of claim 4 and "said duct" in line 2 of claim 4. Claim 4 does not recite sufficient structure of the spring and the duct means to support the claimed function. The phrase "low friction coating" in claims 5 and 6, is a relative term which does not clearly define the invention.

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 1, as far as it can be understood because of its indefiniteness, is rejected under 35 U.S.C. 103(a) as being unpatentable over Roche in view of Maria-Vittorio-Torrise.

Roche discloses a fuel injector for an engine afterburner substantially as claimed. However, Roche does not disclose a means for cleaning the inside surface of duct means. Maria-Vittorio-Torrise teaches using a piston 50 having a rib 82 to clean the internal surface of nozzle. To employ the piston of Maria-Vittorio-Torrise in the Roche device to clean the inside surface of the

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duct would have been obvious to one having ordinary skill in the art at the time the invention was made.

10. Claim 6 as far as it can be understood because of its indefiniteness, is rejected under 35 U.S.C. 103(a) as being unpatentable over Roche in view of Maria-Vittorio-Torrise and Edwards, III 5,315,822. Roche and Maria-Vittorio-Torrise are applied as above. However, they do not disclose a low friction coating on the internal surface of the bore of the duct means. Edwards III, teaches applying a low friction coating of titanium carbide, titanium nitride or titanium carbide on the surfaces of fuel nozzles and fuel lines to prevent the deposition of carbon or coke on the surfaces. To apply the coating of Edwards III, on the injector formed by the combination of Roche and Maria-Vittorio-Torrise to prevent the deposition of carbon or coke on the injector would have been obvious to one having ordinary skill in the art at the time the invention was made.

11. Claims 1 and 2, as far as they can be understood because of its indefiniteness, is rejected under 35 U.S.C. 103(a) as being unpatentable over Roche in view of Barnes. Roche discloses the invention substantially as claimed.. However, Roche does not disclose moveable resilient means in the duct means of his fuel injector. Barnes teaches using a spring 9 in a spray nozzle to breakup and disintegrate deposits in the nozzle. To employ a spring in the Roche fuel injector to breakup and disintegrate deposits in the injector, as taught by Barnes, would have been obvious to one having ordinary skill in the art at the time the invention was made.

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12. Claims 5 and 6, as far as they can be understood because of their indefiniteness, are rejected under 35 U.S.C. 103(a) as being unpatentable over Roche in view of Barnes and Edwards, III 5,315,822. References are applied as above. To employ the coating of Edwards III, on the injector formed by the combination of Roche and Barnes, to prevent the deposition of carbon or on the injector would have been obvious to one having ordinary skill in the art at the time the invention was made.

13. Nash, Weiler, Schmied and Diners are cited as being of interest in that they disclose nozzles.

14. Edward, III 5, 269,137 is cited as being of interest in that it discloses a protective coating for gas turbine elements.

15. This application contains security classification markings (or requests that it be held in a security status) which are objectionable and improper as a component of a patent application not under **SECRECY ORDER**. In response to this action, applicant is required to either:

1) Remove the security classification markings (or requests that it be held in a security status), if appropriate, or

2) Take the necessary steps to have a **SECRECY ORDER** imposed.

If option 2) is chosen, in order for response to this office action to be complete, it must for:

a. Government owned and prosecuted applications, include the imposition of a **SECRECY ORDER**, or

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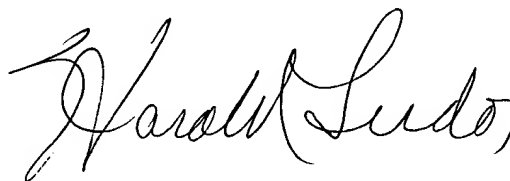
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b. Non-Government applications, include an indication that an appropriate defense agency has been requested to impose a **SECRECY ORDER**.

16. Any inquiry concerning this communication should be directed to Harold Tudor telephone number (703) 306-4172.

tudor/tab  
12/1/99 #1



**HAROLD J. TUDOR  
PRIMARY EXAMINER**

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